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ABSTRACT

This paper examines Australian progress in addressing the implications of two certainties about the 21st century--change will be a constant, and it will be a century of data and information abundance. The focus is on the higher education sector, consisting of 36 public and two private universities. Topics discussed include: (1) characteristics of Australian higher education; (2) challenges for libraries; (3) Information Fatigue Syndrome, i.e., ill health as a result of information overload; (4) education at a crossroads--changes in the role of education because of the information explosion; (5) lifelong learning; (6) changing the educational paradigm, including development of information skills and information literacy as a goal of higher education; (7) the need for research on information literacy; (8) information literacy as the "zeitgeist" of the times, i.e., an idea whose time has come; (9) the marketing of information literacy; (10) a strategic response to ensure that, by 2000, every educator, educational administrator, and librarian in Australia has heard of information literacy; (11) Australian information literacy conferences; (12) summaries of two conference papers on information literacy; (13) information literacy and library competencies; (14) highlights of two Australian government reports on information literacy; and (15) response of Australian university libraries to information literacy and their potential role as educational change agents. (Contains 26 references.) (MES)

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INFORMATION LITERACY: THE KEY COMPETENCY FOR THE 21ST CENTURY

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There are two certainties about the 21st century - change will be a constant, and it will be a century of data and information abundance. This paper examines Australian progress in addressing the implications of both certainties, with particular reference to the higher education sector.

That sector consists of 36 public and 2 private universities serving a heavily urbanised population of some 18 million people occupying a total land area similar to the continental USA. It has several universities of technology, the five larger ones of which constitute the Australian Technology Network (ATN). These larger universities, which have about 25 000 students each, are Curtin University of Technology (CUT), Queensland University of Technology (QUT) which will host the IATUL Conference in 2000, RMIT University, the University of South Australia (UNISA), and the University of Technology, Sydney (UTS).

Characteristics of Australian higher education

Australian higher education in the late 1990s has numerous characteristics which sit happily or otherwise as defining characteristics of higher education in other developed parts of our global educational village. These are

- Mass participation - enrolment in universities increased by 73 per cent between 1983 and 1995 but lower socioeconomic groups and indigenous people are still under represented
- a slight majority of female undergraduates but a considerable majority of male postgraduates
- despite considerable efforts, a general failure to attract female students into computing, engineering and science courses and males into courses in areas such as primary teacher education, nursing and librarianship
- as occurred in the UK, the disappearance of the binary divide between universities and degree awarding colleges of advanced education in the late 1980s. Institutional mergers resulted in often quite large universities, very few of which are not multicampus and which may have several hundred kilometres between campuses - a special challenge in the provision of quality and equitable library services
- a stronger national focus on the role of, and association with, the generally non degree awarding Institutes of Technical and Further Education(TAFE)
- greater dependence on sources of funding other than the operating grant provided by the federal government
- students, particularly postgraduate students, having to contribute more to the cost of their education
- large numbers of overseas students, particularly from Southeast Asia and particularly enrolled in business, computing and engineering courses
- growth of offshore linkages, campuses and course offerings. These are focused on Southeast Asia but are not confined to that region. My own university and library, for example, has a special

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linkage with President Mandela's *alma mater*, the University of Fort Hare which is near Alice in South Africa's Eastern Cape Province, and with Bandung Institute of Technology in Indonesia, among other institutions worldwide
- a focus on strategic planning, marketing, lower unit costs, accountability, quality and customer service improvement
- the growth of a philosophy of open, flexible, student centred, resource based and lifelong learning

In Australia, most of these characteristics developed or were enhanced during the years of the federal Labor (social democratic) governments of Prime Ministers Hawke and Keating from 1983 to early 1996, and particularly in the years 1987-1990. The consequences for university libraries of this are examined well in Colin Steele's *Australian tertiary libraries: issues for the 1990s*. [1] Some of these characteristics are being accentuated or modified as a result of the current conservative federal government which has user pays and economic rationalist tendencies which many consider are inimical to quality and equitable public education at all levels. This government announced in August 1996 a significant national budget deficit reduction program, one result of which was funding cuts to the universities up to the end of the century, but more flexibility for them to accept full fee paying Australian students. The working through by the universities of this fiscal and equity conundrum will clearly take some time, and has already caused considerable institutional and system wide tension and disruption. From enrolments for the 1998 academic year it is clear that few Australian students have any interest in, or capacity to pay for, the full costs of higher education. In 1996 the federal government also instigated a fiscally focused review of higher education, the outcome of which was published in April 1998. At this stage *Learning for life* [2] (the West Report) appears unlikely, despite its title, to impact greatly on the educational directions for higher education in Australia. We have a somewhat testing, in all senses of the word, Minister for Higher Education. What has caught the attention, of educational commentators has been the Minister's 21 April 1998 assertion that all final year undergraduate students will face a test at the end of their final year on

- problem solving and analytical ability
- reading comprehension
- lateral thinking
- reasoning
- data interpretation
- knowledge and understanding of their discipline
- general knowledge

I have suggested to the Minister that if he must persist with such an exercise, it would be more useful to test the information literacy of students as a persuader to universities to hasten its integration into their curricula.

The challenges for libraries

There is thus a number of challenges facing all Australian universities as the 21st century draws near, challenges which are requiring the universities to effectively reinvent themselves if they are to remain required, relevant and resourced. Among the real uncertainties and negatives about just how, and at what speed they do this, is one positive which provides the university libraries with an unprecedented opening to foster educational change, and for which there will be a high opportunity cost if the challenge is not grasped. This is the growing concern with just what should be the outcomes from a higher education when the growth of knowledge is such that the curriculum will always be behind, and when students are, or should be, developing the aptitudes for a lifelong of learning.

Libraries of all types - school, tertiary and public - are, because of their resources, those to which they have access, and because of the awareness, knowledge and motivation of their staff, the umbrella institutions of the learning society. This suggests the need for a much greater connection between those libraries than in Australia, at least, is typically the case. Few academic librarians in Australia, for example, have much indepth knowledge of, and empathy for, the work and challenges of teacher and public librarians. They should, in much the same way as our universities must remain connected to schools, to industry and to society.

There is also now evidence that society, and its individual members, is starting to pay the price for the slowness of recognition within formal education that a pervasive curriculum and methodological mindset change is required - a change resulting in every subject in every unit in every course being able to demonstrate precisely how it contributes to information literacy as a primary, not a peripheral, educational outcome.

Information Fatigue Syndrome (IFS)

For example, a newspaper business section report in 1997 noted from a survey of 1400 managers in Australia, the UK, US, Singapore and Hong Kong

> *The information explosion is making people sick, creating inefficiencies in the workplace and blighting leisure time giving rise to catchy definitions like 'analysis paralysis' and 'information anxiety'.*
>
> *Some 88 per cent of respondents to a survey felt they were being forced to track down and absorb information simply to 'stay competitive...[but] some executives claim to manage excessive information with disciplined filtering'*

Now one might think that the 88 per cent of respondents who were forced to track down information would have considered investing in a librarian to do it for them, and that those who had managed excessive information with 'disciplined filtering' had actually employed a librarian. However both scenarios are unlikely. The typical business person in Australia, at least, has not been educated to recognise that there is a corps of professionals - librarians - who can handle the systematic information gathering, analysis and dissemination at which they are so often inept. This says something about teacher librarians, public librarians and academic librarians as role models. The library profession still, despite the manifest and increasing need for its services and values, has a marketing deficit. It could be argued that the usual definition of an information literate person as someone with 'the ability to recognise when information is needed, locate, evaluate, and use effectively the needed information' should be complemented by 'and recognising when using the services of an information professional is appropriate'.

An Australian library educator, Margaret Butterworth, believes that

> *...even our top students should not be taught that they can become completely self sufficient in their search for information...the use of intermediaries should be built into formal instruction on the research process, so that students grow up with a high expectation of the type of service they can expect from libraries and information centres in the future'.* [3]

In similar vein to the survey of 1400 managers *The Professional reading guide for educational administrators* in March 1997 carried an article 'Information overload may be killing you'. [4] It stated

> *We are awash with information. We are surrounded, prodded, consumed and overwhelmed by it...The total of all printed information doubles every five years. More information has been generated in the last three decades than in all the previous 5000 put together. We are in the midst of an information explosion. And, as is the nature with explosions, the casualties are mounting up. Psychologists are increasingly talking about a strange new ailment - Information fatigue syndrome.*

The article noted that one in four managers surveyed admitted to suffering ill health as a result of the information they now handle, despite agreeing that they need high levels of information to perform effectively. Symptoms included paralysis of analytical ability, mounting anxiety and self doubt and an increasing tendency to blame others. A Dutch organisational behaviourist, Professor Gert Hopstede, was quoted in the article as saying human beings were in danger of killing themselves with information stress. He observed that

> *Human beings were not designed to handle huge volumes of data. Basically, humans are very smart chimpanzees - there's only 1.6 difference in our genes and those of our primate cousins - we program VCRs and fly space shuttles with the same brains our ancestors used to grunt signals or carve stone tools.*

With reference to the 'killer application', the Internet, he concluded 'We have created a complicated superhighway of information for very high speed travel, without training drivers...or training them how to use a roadmap'.

Hopstede is, of course, right. Only the naive and rabid technolusts believe that information technology and the Internet will provide a universal information panacea. And only the most optimistic would contend that education at all levels is grappling comprehensively and systematically with the implications of what that technology is emphasising - that we live, in developed countries at least, in an information over abundant society for which few people are well prepared, and which troubles many.

Education at a crossroads

It is now almost passe for educators to suggest, as two of my University of South Australia colleagues noted last year, that their

> *...traditional role as the fount of knowledge will change because of the information explosion. Learning will be less about knowledge residing in the head and more about learning the pathways to knowledge.* [5]

Teaching, at all levels of education, is indeed at a crossroads in addressing a reality which has existed as a possibility since Gutenberg and certainly since books and other printed material became cheaper in the 19th century, and since modern libraries focused on access rather than collections started to develop.

However it is really only in the last thirty years, as libraries, complemented by the Internet, have improved general access to data and information resources, that an alternative to didactic teaching methodologies has presented itself. Yet as long ago as thirty years one of Australia's most distinguished educators, Ernest Roe, the Professor of Education at the University of Queensland, pointed out

> *In general, 'promoting the efficient use' of resources has been nobody's business. Even where there has been active concern, significant gaps persist. A teacher may urge his students to use the library resources, provide book lists, set work which effectively directs them to the library, but takes no interest in how they use the resources he is so keen for them to use, or in whether they have the necessary skills to do so...A librarian may be actively involved in helping, in actually training, users to be skilful in search strategies, be most eager that the resources are in every sense accessible to students; but regard what students do with the 'right' book when they have located it as none of their business...* [6]

Despite fifteen governmental and educational reports which have surfaced in Australia in the last few years identifying information as a key issue for the educational, economic and societal future of the country, Professor Roe's comments of thirty years ago remain largely valid. Yet progress has undeniably occurred.

Lifelong learning

Much of that progress is to be seen in a 1980s refocusing of state secondary school curricula using resource based learning methodologies in partnership with teacher librarians pioneered by the Haycocks in Canada as Cooperative program planning and teaching (CPPT). *The common and agreed national goals for schooling in Australia* published in 1989 by the Australian Education Council has several goals which emphasise the need for information literacy. At least four of the ten goals require students to be information literate for their achievement. The 1992 Mayer Committee on key educational competencies [7] had, as its first competency, collecting, analysing and organising ideas and

information. These national reports have been complemented by state versions of educational policy statements which have emphasised implicitly or explicitly the need for a focus on information literacy. There are also few tertiary education institutions in Australia which do not now include in their mission statements some reference to the fact that they aspire to prepare students for that lifelong learning which has become an international policy icon of the 1990s - an icon which it is suggested will

- help career development
- tackle unemployment
- encourage flexibility and change
- raise personal and national competitiveness
- help develop complete human beings
- preserve or develop national culture
- sustain a sense of local community
- overcome social exclusion
- build international understanding

Changing the educational paradigm

The creation of a learning culture which produces graduates with a capacity and desire for lifelong learning in a rapidly changing, complex, and information abundant environment, requires a major shift in the educational paradigm. Many Australian universities are grappling with how that shift can be achieved at a time of great organisational change and reduced financial, human, library and other resources due largely to a narrow visioned federal government. The universities of technology have been among the leaders in pushing the paradigm shift through, for example, their centres for teaching and learning which aim to foster innovation and best practice by academic staff. A number have attempted to identify the qualities they aim to inculcate in their graduates, and my own university, UNISA, after extensive university wide consultation issued in 1997 a list of seven generic graduate qualities, of which the first four are

- operates effectively with and upon a body of sufficient depth to begin professional practice
- is prepared for lifelong learning in pursuit of personal development and excellence in professional practice
- is an effective problem solver, capable of applying logical, critical, and creative thinking to a range of problems
- can work both autonomously and collaboratively as a professional

These four qualities demand information literacy, and under the second, lifelong learning, a first indicator is given as

- locate, evaluate, manage, and use information in a range of contexts ie be information literate

The inclusion of this limited reference to information literacy was one outcome of a 1993 report *Information literacy in the University of South Australia* produced by the University Library, in response to which the then Deputy President and now President Professor Denise Bradley proposed the following actions

- *...that each faculty will indicate in its 1994-1996 quality improvement plan in teaching and learning, when it will focus on information literacy as part of its teaching improvements strategy*
- *ensure that evaluative comment is made about information literacy in the reports prepared for the annual course reviews*
- *ensure that account is taken of information literacy in formal course development, approval and review processes*

In 1997 this was given further emphasis in a document produced by the University's Flexible Learning Centre *Developing the qualities of a University of South Australia graduate: guide to writing course and subject documents*. In 1998 the pace is quickening somewhat with the appointment within each of the university's effectively ten faculties of an Associate Dean: Teaching and Learning, and the University

Library is currently negotiating with these Associate Deans about the integration of information literacy into faculty programs and outcomes. We recognise that, although there have been some good examples of this occurring already, they are the exception and there is a long way to go in persuading all academics of the need to change the learning paradigm. We also accept that many of our academic colleagues have not had any exposure, either in their training or in their experience as learners, to models of student centred learning. Therefore we are also aiming to identify programs suitable for longitudinal study to demonstrate what imbedding information literacy into the curriculum and teaching methodology can achieve.

The other ATN university libraries have made progress in broadening their long established skills based library user education programs to reflect information literacy concepts. Curtin, for example, states that

> ***Mission***
>
> *The information literacy program's mission is to support, promote and enhance teaching, learning and research at Curtin University by providing training which assists in the development of information literacy skills for flexible, independent and lifelong learning. Training given will assist clients to find, retrieve and manage information through various systems and in a variety of formats.*
>
> *The information literacy program supports the mission of Curtin University and links to the University's teaching and learning strategic plan.*
>
> *Special goals of the program include the development of skills and competencies that enable clients*
>
> - *to recognise an information gap*
> - *to construct alternative strategies to reduce the information gap*
> - *to select a strategy*
> - *to act on a strategy to find and retrieve information*
> - *to assess the effectiveness of a strategy*
> - *to acknowledge the sources of information and ideas*
> - *to store the information for future use*

Queensland University of Technology Library, which is reviewing its approach to information literacy in 1998, advises students that

> *Information literacy has become an essential element for citizenry in this new world. Becoming information literate during your university studies means you are learning how to learn, or, becoming lifelong learners with transferable research and learning skills and that the national 'Key competencies in teaching' project site, in which QUT is involved, is designed to focus on teacher education as a follow up on the findings of the Mayer Key competencies report. It lists competency 1 as 'The capacity to locate information, sift and sort information in order to select what is required and present it in a useful way, and evaluate both the information itself and the sources and methods used to obtain it'.*

RMIT University Libraries does not use the term information literacy but states that

> *RMIT Libraries is committed to the provision of high quality information skills education to the population of RMIT. RMIT Libraries believes that the acquisition of information skills is a key competency for students at any level, and the efficiency and effectiveness of the educational process within any RMIT subject is significantly enhanced by the incorporation of an appropriate information skills component.*

The University of Technology, Sydney Library, like UNISA, also has a large user education training program facilitated through its liaison librarians. However, in all of the ATN libraries, and although there is much useful and appreciated user education activity, that activity is still largely reactive to an

outdated and wasteful teaching and learning paradigm. Helping to change that paradigm by proaction is the challenge we face. As Ford has pointed out

> *Librarians must be more forceful in defining and pushing their own aims and objectives, framed in terms of the level, quality and scope of student learning. Many of these aims may be distinct from - perhaps even conflicting with - those drawn up by other parties in an educational institution. Librarians must be fully committed to developing institutional aims and objectives involving discussions of such complementary but often conflicting points of view. They have a unique and valuable viewpoint.* [8]

The need for research

What is clearly needed to accelerate interest in information literacy by teachers at all levels of education is tangibility, and proof that it makes a difference to short and long term learning outcomes.

One South African academic commentator, Behrens, has noted

> *Information literacy is an abstract concept. As a metaphor it is a neatly packaged and imaginative descriptive phrase that is not literally applicable or easily interpretable, implying something more qualitative and diffuse than is evident.* [9]

And as another US university librarian commentator, McCrank, noted in 1991

> *The paradox of information literacy is that it calls upon librarians to change more than users...information literacy is an abstraction, an unachievable, if noble, goal. It is a process rather than a product. Librarians, like priests and teachers, are doomed to partial success unless the concept undergoes further definition, refinement, and delimitation of objectives.* [10]

What is now needed in Australian universities is to replicate considerable work undertaken by Ross Todd, a library educator at the University of Technology, Sydney. Todd has been working for several years on a longitudinal study at a Catholic secondary girls college in Sydney where he has pursued the impact of an information literacy framework integrated into classroom teaching and student learning by working with teachers, teacher librarians and executive staff of the school. That work has fairly demonstrated a worthwhile outcome. To use Todd's own words

> *Information skills instruction integrated into classroom content does contribute to the development of constructive thinkers, learners who take charge of their own learning, ask the appropriate questions, see information from a range of sources and restructure and repackage this information to create and communicate ideas that reflect their own deep understanding.* [11]

Information literacy: *zeitgeist* of the times?

Futurist Kim Long in his annual 1990 *Forecaster* heralded information literacy as a faddish, upcoming 'new buzzword'. However information literacy is clearly no passing phase or fad. Professor Phil Candy, who is one of Australia's most respected educational writers and Deputy President (Scholarship) at the University of Ballarat has observed that

> *...information literacy is the **zeitgeist** of the times...an idea whose time has at long last come. It is consonant with the reform agendas in government, in communications technology and in education...with employers' demands for an adaptable and responsive workforce. It is increasingly multidisciplinary and must be included across the curriculum at whatever level of education or training we are involved in. And finally it is consistent with the notion of lifelong learning and the fact that the only constant is change.* [12]

Candy also has made the observation that there is a tension between information literacy as a public phenomenon, and as an individual or private phenomenon. He concludes

> *...it is in fact both, and that the challenge of raising awareness amongst our colleagues and throughout society can best be described as 'dissemination'; whereas the challenge of developing the skills of information literacy in individual students and users might best be captured by the term 'insemination'.* [13]

The marketing of information literacy

In focusing on the dissemination of information literacy my conclusion some time ago was that in Australia we were faced with a marketing exercise for which no one in particular had a responsibility. There was a concern - of at least thirty years' standing - which had become a concept, and was becoming a product. That product now had a name or 'handle', and there was a virtually unlimited market with absolute need of the product but which ill recognised or ill defined the need.

Information literacy is not a 'library' issue. It is an educational, societal and democratic issue which should be of fundamental concern to all those who would call themselves educators. However the reality, at least in Australia, is that without the educational leadership of teacher librarians and academic librarians, it would not have become the issue it is now becoming.

My commitment to marketing information literacy as a national issue stemmed from a 1991 meeting with Patricia Senn Breivik at Towson University in Baltimore, a meeting to discuss academic library and computer centre convergence but which focused more on Patricia's role in establishing the US National Forum for Information Literacy. As we spoke I realised that we had to initiate in Australia a similar systematic way of focusing on information literacy if ever the considerable amounts of money spent on education at all levels were to really foster a cleverer and a better Australia into the 21st century.

In assessing how to go about this challenge, four things stood out

- Despite the fairly universal wish for an alternative term for the concept, there was no meaningful alternative to information literacy. It had, after all, not been coined by librarians but by Paul Zurkowski in 1974, and which had since been endorsed by business people and educators in the US
- That although secondary education in many parts of Australia had reflected on the issue in policy documents there was a large gap between the rhetoric and the reality. Universally the issuing of those documents seemed to coincide with cuts to library and information services and to the number of teacher librarians in schools, the very agents most able to promote and facilitate the reality
- That in other educational sectors, particularly higher education, even the rhetoric was then largely missing
- That none of the formal educational sectors - primary, secondary, technical and further education and university - saw information literacy as an educational continuum or recognised it as the one umbrella issue they had

A strategic response

I therefore decided to initiate a strategy to ensure that by 2000 every educator, educational administrator and librarian in Australia had at least heard of information literacy and was preferably aware that it was not just a 'library' issue. In taking this direction I was aware that Patricia Breivik and the US National Forum for Information Literacy has initially concentrated on selling the issue to the corporate business sector rather than to educators and to librarians. However my view was that selling the issue to corporate and professional Australia will be more credible if a strong educational and library concensus on the issue exists.

From a limited resource base within the University of South Australia Library, a key element in that

strategy has been the conduct of three national information literacy conferences, the third of which was held in the national capital Canberra in December 1997 as a forerunner to the fourth which will be held in 1999 at the University of Ballarat and which will see the establishment of a broadly based Australian Forum for Information Literacy (AFIL).

The other elements in the strategy have been the publication and very wide and continuing dissemination of the proceedings of those conferences; [14] as well as publications of Adelaide based publisher Auslib Press; [15] articles and conference papers in librarianship and nonlibrarianship journals and conferences; submissions to numerous educational reviews; the establishment of an Information Literacy Taskforce of the Australian Library and Information Association which at the beginning of 1998 became a Special Interest Group of the Association; and the establishment of a national information literacy website funded largely by the University of South Australia Library.

The conferences

The first conference was held in Adelaide in 1992 and was entitled *Information literacy: the Australian agenda*. Very much a working and interactive conference, it also had two outstanding keynote speakers in Patricia Breivik and Phil Candy.

The second conference, held in Adelaide in late 1995, was entitled *Learning for life: information literacy and the autonomous learner*. It had as its keynote speakers Christina Doyle from the US and John Stephenson from the UK.

The third conference *Information literacy: the professional issue* was held in December 1997 in Canberra where many professional associations are headquartered. Its focus was on how the professions in Australia identify information literacy in their recognition of university programs for professional status, and in their own continuing education programs for their members. A major address on developing information literacy in professional practice given by Professor Candy, is well worth reading. Other speakers came from the US, New Zealand, Singapore, and not insignificantly given the location of this 1998 IATUL Conference, from South Africa.

Beyond the segregated highway

Celia Walter, reference librarian from the University of Cape Town gave a very well received paper *Beyond the segregated highway* which reviewed South Africa as a society undergoing great transformation in the face of the many fundamental challenges facing its reconstruction and development program (RDP). In the paper is described the outcomes of the May 1996 *Information society and development conference* (ISAD); the new schools curriculum framework which has been entitled *Curriculum 2005* and which has as one of its aims 'helping learners to become lifelong learners'; and the fact that, for the first time, South Africa will have a national system of education and training aimed at benefiting the whole country and all its people, ending the discriminatory apartheid system with its fifteen departments of education. *Curriculum 2005* has been strongly influenced by New Zealand's outcomes based system and it has not been without criticism. For example, as Walter points out, if outcomes for creative thinking are laid down, can that really encourage creative thinking? However, as she also points out

> *The school curricula must accommodate the needs and circumstances of learners and of the nation. Curricula are to be structured so that learners succeed. The South African school system has been bedevilled by a high dropout rate and a high failure rate amongst Black pupils. The teacher takes on a new role as the facilitator of learning, rather than as the arbiter of knowledge.* [16]

Walter also reviews the South African green paper on higher education transformation, and the information literacy implications, including the concerns of the working group on libraries and information technology which concluded

> *...a major focus for information literacy work should be...on developing an awareness of other knowledge domains and belief systems, of how knowledge is produced and validated...and an appreciation of their intrinsic value* [17]

South Africa has been more active in the information literacy area than many other regions. For example, of considerable interest in Walter's paper is an outline of the Cape Libraries Cooperative (CALICO) information literacy project INFOLIT which commenced in 1995 to provide undergraduate students, particularly those from disadvantaged backgrounds, with enhanced information literacy. The challenges she describes as facing the CALICO librarians are recognisable to all academic librarians

- the integration of information literacy into academic courses and programs
- developing their personal capacity to deliver information literacy programs
- to establish coalitions across different types of institutions, to ensure that policy becomes practice [18]

Another paper at the 1997 conference which will be of interest to anyone from a country with an indigenous population was given by Elizabeth Jones from New Zealand. *Information literacy for Maori: a cultural perspective* examines issues such as

- do Maori have a particular perspective on information literacy?
- how do they go about meeting their information needs?
- are their particular barriers for Maori in achieving a high level of information literacy? [19]

Australia has therefore, in part through its information literacy conferences, contributed to the raising of information literacy as a national, regional and global issue.

Information literacy and library competencies

Australia has also made progress in the development of library competencies and I am supervising a PhD candidate at UNISA who is undertaking what we believe is the world's first doctoral study in the area. One Australian university of technology, Curtin, has been particularly active in applying the library competencies, [20] under the leadership of its University Librarian Vicki Williamson.

In April 1998 a draft of the revised federally sponsored Australian library competencies was released, and significantly contains two units of competency relating to information literacy. The first is entitled *Develop own information literacy skills* and its descriptor reads

> *Library practitioners recognise the critical importance of self education and lifelong learning in their studies, work and everyday life. They enhance their own ability to access and use information through various systems and in a variety of formats.*

This descriptor is followed by several elements, each of which has several performance criteria attached to it. The Australian library profession is thus setting a lead by modelling a critical competency for the other Australian professions.

A second information literacy unit is entitled *Deliver client information literacy programs*, and its descriptor reads

> *Library practitioners play a prominent role in supporting the information literacy development of their clients. Learning, through instruction to staff, individual clients or groups, is enhanced where there is a clear focus on learning needs and outcomes.*

This unit has five elements, to which are also attached several performance criteria.

The reports

At the first national information literacy conference in 1992 Patricia Breivik stated

> *Once it became clear that I would be coming here I started to read the Australian literature on resource based learning, lifelong learning and information literacy...I am very jealous of the number of publications you have from your government that talk about the major issues...* [21]

One of the government reports to which Patricia Breivik referred was the 1990 review of *Library provision in higher education institutions*, commonly known as the Ross Report. As one of the five members of the working party responsible for the report, I was able to have included as a last minute term of reference 'the role of higher education libraries in preparing those training for the professions in information literacy'. The Ross Report was therefore the first of a series of Australian government reports which used the term information literacy.

It did so in a six page section entitled 'The library as educator' which included the observation that

> *Higher education has a critical role in the acquisition by adults of information literacy, but this form of literacy is part of a continuum which should commence with school education. It is a goal, a condition to be instilled in students, an emphasis on resource based learning...for that acquisition of information skills which is now one of the educational aims of most state education departments.* [22]

Among the report's other observations were that

- close cooperation between teachers/academics and librarians must exist
- information skills need to be taught in context
- librarians have an important perspective to contribute to the teaching/learning process for they see the problems clients have in carrying out research/enquiry based tasks
- librarians have a teaching role to perform, a role that focuses on information and the skills needed to access and use it
- the skills for independent learning are fundamental to both lifelong learning and the economic and social well being of our society

Also noted was that many higher education students entering higher education directly from school did not have well developed information awareness or skills and that 'higher education curricula for preservice teachers appear destined to perpetuate such unpreparedness in the future generation of school leavers'. The report's conclusion that 'Graduating teachers are in the main as unaware of these [information] issues as they were fifty years ago' is still largely true. Despite a shift to student centred and resource based learning in Australian schools in the last decade, we still have in place curricula focused on content, and the classroom teacher as an autonomous and dominating information resource and authority. How to modify that is a major challenge involving considerations of politics, power, psychology and pedagogy - educational bureaucracies, administrators, teachers and teacher unions tend to have vested, if subconscious, interests in maintaining anachronistic approaches to teaching and learning which were appropriate for the information resource limited 19th century - but which will hardly be so for the information abundant 21st century.

It does require a major mindshift to envisage schools and universities - assuming that they will continue to exist physically - where the librarians, libraries and information access and use are the top priority for funding and where the primary task of the teachers and lecturers is to provide learning frameworks which facilitate information literacy. Yet that is *precisely* what is required if the challenges of the 21st century are to be met convincingly. It was not for nothing that prominent Australian businessman Eric Mayer at our second national information literacy conference posed the question 'Whose job is it to convince teachers that information literacy is the key enabling competency for lifelong learning?' And it was not for nothing that Ida Silva in her article 'Information overload may be killing you' commented that '...there have been comparatively few resources put into educating people how to cope with the mass of information they are confronted with'.

The Candy Report

Another Australian government report which has made a major contribution to the information literacy debate in Australia is the 1994 *Developing lifelong learners through undergraduate education*, or the Candy Report. [23] This noted that compared with the United States and United Kingdom the transformation of Australia's higher education system had been marked by debates about systems and structures rather than about functions and purposes. It also observed that Australia is not alone in confronting the requirement for a more flexible and adaptive education system, and that other countries have tackled lifelong learning in a range of ways.

The Candy Report also commented on the extent to which the first aspiration of many of the clients of universities - for a vocationally relevant qualification - stands at odds with the deeper educational purposes of universities.

The report was extensively informed by the involvement of its main author Professor Phil Candy in our first national conference on information literacy. Information literacy as a concept, and as the critical competency for lifelong learning, is a feature of the report, it being noted that '...it was clear that librarians saw their role as undergoing major transformation as they themselves became agents for change within the university community'.

Also noted was that

> *...electronic databases and interlibrary loan systems have done much to bring learning resources to the fingertips of staff and students, but they have not obviated - if anything they have emphasised - the need for the library to be at the heart of learning. As libraries accept a more central role in the intellectual life of their institutions, they likewise become more pivotal in efforts to develop lifelong learners.* [24]

Professor Candy's interest in information literacy has resulted in him mentoring Christine Bruce, an academic at the Queensland University of Technology and the author of Australia's first PhD on information literacy which was published in September 1997 as *The seven faces of information literacy* [15] by Auslib Press. Bruce, from her study of the varying experience of information literacy by higher educators, concludes that there are seven different ways of experiencing information literacy and that it should be considered a major element in learning organisations as well as being a key characteristic of lifelong learners

The response of the Australian universities libraries

Not surprisingly, the response of the Australian university libraries to information literacy and their potential role as educational change agents varies. Some of those responses, by institutions such as Griffith University and Curtin University of Technology, are described well in the 1995 book *The Learning link: information literacy in practice*. [15] However, whilst all of the university libraries would accept a responsibility to promote information literacy as an issue, and to foster information literate students, the focus - as noted about the ATN libraries - is still on library literacy and library user education.

The current mission statements of the Australian university libraries are still largely confined to acceptance of a support role within the university, and the following is typical

> *In keeping with the mission of the University of....., the Library supports the teaching, learning and research of students, staff and the wider community by providing optimal access to information resources, irrespective of format or location.*

Some of the libraries do, however, refer to information literacy and lifelong learning in their objectives and goals, and two in particular have endeavoured to incorporate an educational vision in their lead statements.

The vision statement of the University of South Australia Library is

> *To be the university's key information provider in facilitating student centred learning, research and **information literacy** for lifelong learning*

Deakin University recast its mission statement in 1997 and adopted a widely used slogan 'we help people to learn'. Its mission statement now reads

> *The library will be pre eminent in providing information skills, services and resources for the university community to succeed in lifelong education*

These both seem to be worthwhile upfront assertions as the role of the academic library develops within what Maurice Line has described as universities changing from 'a system of teaching supported by libraries to a system of learning resources supported by teaching'. [25] The lifelong learning wagon seems a singularly appropriate vehicle to which all types of libraries should hitch themselves, and particularly academic libraries. Any university library which attempts into the 21st century the maintenance of a mission confined to 'excellence in the provision of information resources ' will lack credibility in the changing teaching and learning context of higher education, and will sell itself, its institution, and most critically its clients, short.

Robert Holloway from the Center for Excèllence in Education at Northern Arizona University gave a paper at the second national Australian information literacy conference called *Information literacy: diffusion of an innovation*. The paper describes the diffusion of information literacy in the US, and Holloway comments that

> *The need to reach out, to 'sell' the construct to others, was clear...The criterion that was important was the value information literacy has for the user...Somewhat oversimplified, no one cares about librarians - but about what librarians or libraries can do to help meet specific needs. The goal was to convince others that the process of information had high utility.* [26]

Conclusion

Progress towards that goal has been made in Australia, and in my more optimistic moments I sense a common need and purpose is developing about this most fundamental of educational.

And it is fundamental, not just for Australia, but for all countries, including of course South Africa, because the recognition of need and the ability to access and use information critically and effectively allows three vital things to occur. To paraphrase Margaret Butterworth

- First, it is a prerequisite for participative citizenship
- Secondly, information literacy is required for the production of new knowledge, on which the future economic success of all countries depends
- Lastly, information literacy is needed to address global problems which challenge the planet and the survival of civilisation

The challenge facing Australian university librarians is just how to contribute to persuading their universities and their governments to a faster educational mindset shift which will recognise the issue and permit it to be addressed in a well funded, ongoing and pervasive way. One promising indicator for Australia is that in his opening address at the third national conference in December 1997 Mark Latham, the federal shadow minister for Education and Youth Affairs, and who has been suggested as a future prime minister of Australia, commenced by observing that

> *Information literacy and lifelong learning will give Australians the ability to survive and progress in a global economy of change, which is increasingly weakening the sovereignty of the nation state...Knowledge is information from every available source, analysed and targeted to needs. The skills for doing this are what we mean by information literacy.*

There is thus at least one senior politician in Australia who we have helped convince, and we do hope that you will all come to the IATUL Conference in the beautiful city of Brisbane in the year 2000 to discover further Australian progress in promoting and addressing information literacy as the educational *zeitgeist* of the 21st century.

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Initialisms and acronyms

AFIL Australian Forum for Information Literacy

ATN Australian Technological Network

ALIA Australian Library and Information Association

CALICO Cape Libraries Cooperative

CPPT Cooperative program planning and teaching

CUT Curtin University of Technology

ISAD Information society and development conference

QUT Queensland University of Technology

RDP Reconstruction and Development Program

RMIT Royal Melbourne Institute of Technology

TAFE Technical (or training) and Further Education

UNISA University of South Australia

UTS University of Technology, Sydney

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